EE472

Estimation of the Burden of Chronic Kidney Disease in the Argentine Health System

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OBJECTIVE

To raise awareness regarding the problem of chronic kidney disease in Argentina and estimate the direct costs of its care from the payers´ perspective.

CONCLUSIONS

Chronic Kidney Disease affects **12.7% of adult population** and poses a substantial burden: deterioration in quality of life, years of life lost, and extremely high costs for health systems. DALYs lost to CKD amount to 320.000 per year.

The estimated annual direct cost of chronic kidney disease in Argentina amounts to **USD 2,150** million. It represents almost 3,6% of Health care spending.

With greater investment in cost effective interventions in prevention and early diagnosis and treatment, it is possible to **slow down the progression of the disease**, giving patients a substantial improvement in their quality of life.

INTRODUCTION

CKD involves a gradual loss of renal function. Early CKD stages are asymptomatic, leading to a high underdiagnosis rate. The disease is not curable, but the progression can be slowed down (PAHO, 2022). Chronic kidney disease (CKD) in patients with type 2 diabetes mellitus (T2DM) is the major cause of end stage renal disease (Front Endocrinol, 2022) and CKD increases the risk of cardiovascular death (Bardají & Martínez-Vea, 2008).

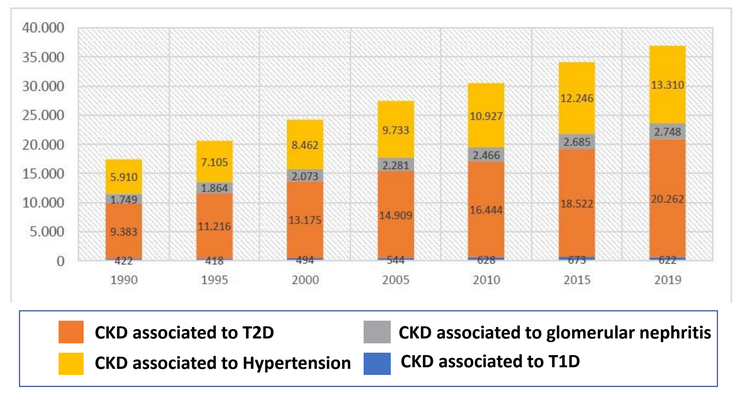
Renal disease represents the eighth cause of mortality. It also represents the tenth cause of years of life lost due to premature death and the tenth cause of years of life lost adjusted by disability (OPS, 2022). It affects more tan 720 million people in the world, and 1,48 million people die each year due to CKD (GBD 2019). In Argentina, the burden of the disease sums to 320.000 DALYs per year, 2,7% of the total DALYs lost by all cause.

METHODS

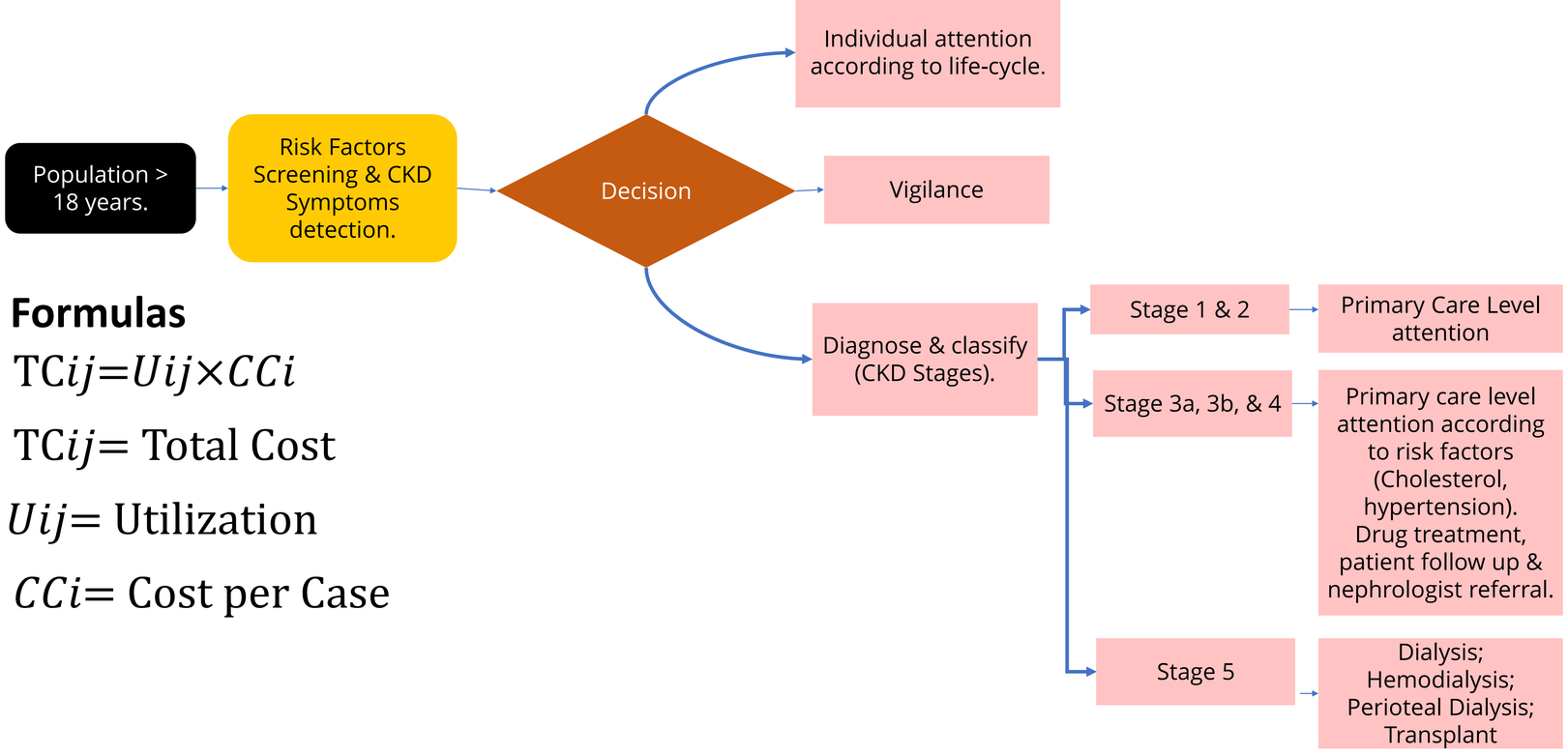
A cost-of-illness approach was used to calculate the direct economic burden of CKD. Local clinical practice guidelines, Official healthcare and costs-related statistics referring to 2022, were used to obtain prevention, diagnosis, treatment, and follow-up costs. Cost of treatment of the disease in its different stages was calculated, as well as the costs due to excess hospitalizations of CKD patients, excess incidence of stroke and excess incidence of acute myocardial infarction.

RESULTS

The estimated annual direct cost of chronic kidney disease in Argentina, on 2022, amounts to USD 2,150 million. The average per-patient annual cost of treatment for stages 1-2 was USD 102, for stages 3-3B-4 was USD 909 whereas the cost for a patient in stage 5 (kidney replacement) was estimated at USD 18.246. Treatment to 31.407 stage 5 patients cost of USD 572 million. DALYs lost to CKD amount to 320.000. Effective coverage data compared with the estimates of need, showed a very significant under-provision gap, mainly in the earliest stages of the disease. On average, only 41.8% of the population with CKD is being diagnosed and treated.



	Cost (USD)	Patients diagnosed & recieving attention	Effective Access Rate (%)	Annual Cost per Patient (USD)
1. Prevention by Risk Factors (> 18 years with high colesterol & hypertension)	**56.485.071**	**1.306.521**	**17%**	**44**
2.Diagnose and treatment	**1.928.211.118**	**1.752.873**	**41,8%**	**1.100**
Diagnose & attention **Stages 1 & 2**	28.430.146	277.420	26,3%	102
Diagnose & attention **Stages 3, 3B & 4**	1.326.740.496	1.444.046	46,5%	919
Attention **Stage 5** (Dialysis & Transplant	573.040.477	31.407	100%	18.246
3. Additional costs due to comorbilities and higher risk of hospitalizations	**165.649.673**	**96.160**	100%	1.723
Hospitalizations in excess CKD Patients	21.929.679	70.502	100%	311
Attention of Stroke due to CKD	95.866.607	14.000	100%	6.848
Attention of heart attacks due to CKD	47.853.387	11.658	100%	4.105
CKD Total Cost in Argentina	**2.150.705.862**			



Formulas

$$TCij = Uij \times CCi$$

$TCij$ = Total Cost

Uij = Utilization

CCi = Cost per Case

DISCLOSURES
Financial support for this study was provided by Boehringer Ingelheim and participated in the interpretation of data, review, and approval of the publication. All authors contributed to the development of the publication and maintained control over the final content.